VEICHI

SD700 Series
High Performance Servo System

Company Profile

Veichi Electric, been listed as the provincial advanced unit of Jiangsu province and a frontrunner in Electric Drive and Industrial Control, is a national high-tech enterprise with the ability of R&D, manufacturing and selling of industrial automation products since its establishment. The headquarter is located at Suzhou, Jiangsu province, we also have operation centers in Shenzhen, China and Ahmedabad, India. Now our business has covered many countries and regions with the mission of providing customers worldwide with competitive, safe and reliable products and services.

After years of independent research and development and innovation, VEICHI has developed a series of independent intellectual property rights. By the end of December 31, 2020, VEICHI has obtained 54 software Copyrights and 103 authorized patents, including 18 invention patents.

We supply a wide range of products, including inverters from 0.4kW to 1,200kW, servo systems from 50W to 200kW, motion controllers, PLC and HMI, etc., to diverse customers in lifting and mining facilities, rail transportation, machine tools, compressors, plastics, photovoltaic pumping, building materials, robots or manipulator, printing and packaging, textile and chemical fiber, metallurgy, municipal administration, petroleum, chemical and other industries.

In the next 10 years, we will strive to adhere to the core value of “market-guided and innovation-drived”, and strengthen the core business of inverters, servo systems and motion controllers, and intelligent cyber systems. Moving on offering excellent products and efficient services constantly, the company will spare no effort to make contributions to promote the development of electric drive and industrial control.

SD700 Series
High Performance Servo System

Latest software algorithm design

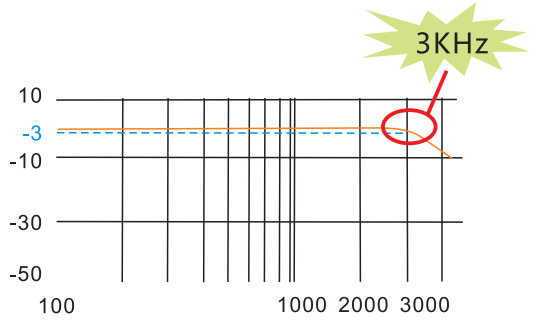
Latest hardware platform design

Latest structure appearance design

Product features

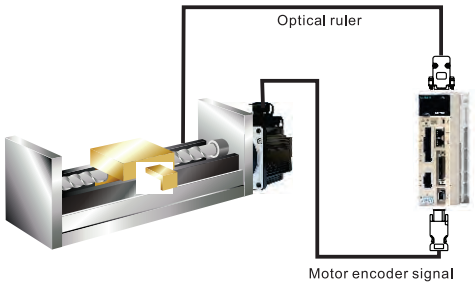
3KHz speed loop response bandwidth

The unique current algorithm can effectively improve the speed loop bandwidth which can greatly reduce the adjusting time and improve production efficiency. The fastest adjusting time can reach 1ms.



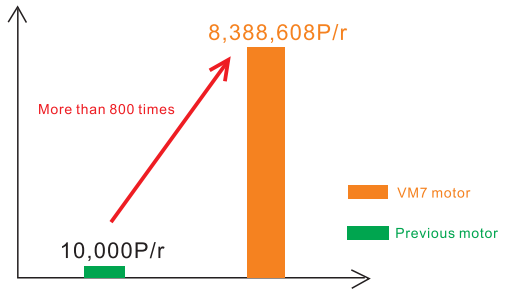
Support full closed loop mode

The full closed loop mode supports external second encoder or grating ruler to reduce mechanical transmission gaps and increase the actual positioning accuracy.



23-bit absolute encoder

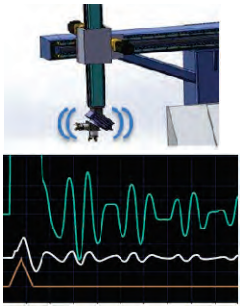
The standard 23 bit multi turn absolute encoder has 8388608 pulses per turn and the communication speed can reach 2.5mbps.
The positioning is more accurate, the low speed is more stable, and the power-off position is not lost.



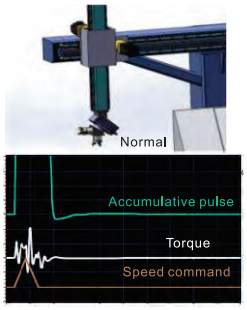
Low frequency vibration suppression function

The vibration filter can be set manually or automatically via the upper machine softwares to effectively eliminate the inherent vibration frequency, greatly reduce the stop axis jitter (sloshing) and effectively suppress vibration in 0~100Hz frequency.

Filter without vibration suppression

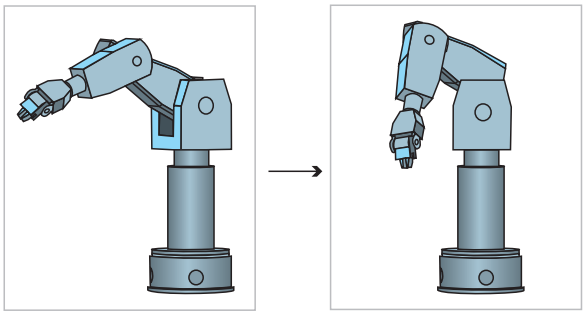


Filter with vibration suppression



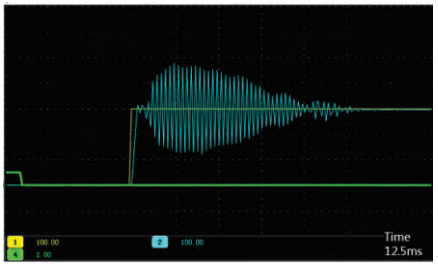
Robust control

Adopt latest control theory algorithm to achieve load rotating inertia within 30 times (even load changes during processing). It can ensure stable operation without parameter adjustment and can be used after installation.



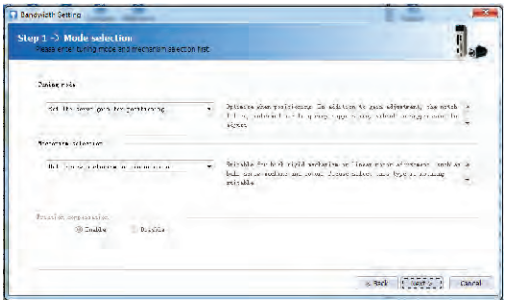
Auto set notch filter

There is no need to do complex vibration frequency measurement and analysis. The notch filter is quickly searched and automatically set through the single parameter adjustment function of the upper machine. It features easy to use,and the shortest time is within 70ms. It can greatly reduce the noise and vibration due to the equipment mechanical resonance so as to achieve more rapid response operation.



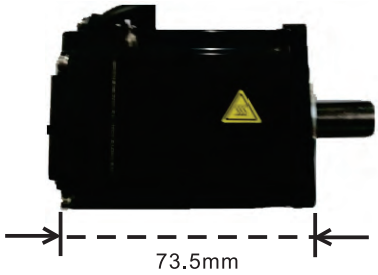
Intelligent setting

Automatic gain adjustment, guided setting mode,and sequential setting can complete servo gain settings,which is easy to use. It also provides more adjustment modes, which can be adjusted according to different mechanical structure and technological characteristics, so that the machine can reach the optimum state.



Motor miniaturization and high dynamic performance

Adopt the latest manufacturing techniques to optimize magnetic circuit design and reduce magnetic loss, achieving motor high dynamic response performances; Besides, the motor volume is reduced by 20%.



If taking 200W as an example, the length is shortened by 20mm

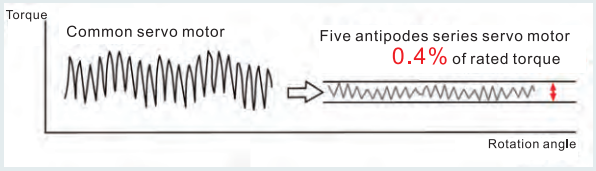
Powerful bus communication function

Support RS-485, EtherCAT, CANopen, MECHATROLINK Ⅱ, MECHATROLINKⅢ and other mainstream buses.

CANopen® EtherCAT. Technology Group

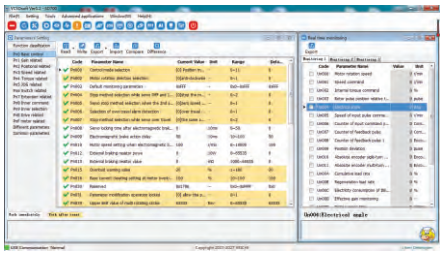
Greatly reduce motor ripple torque and stably operate at low speed

10 stages rotor and 12 slots stator are adopted. The unique magnetic circuit design can effectively suppress slot effect and greatly reduce ripple torque to ensure constant motor speed and stable operation at low speed.



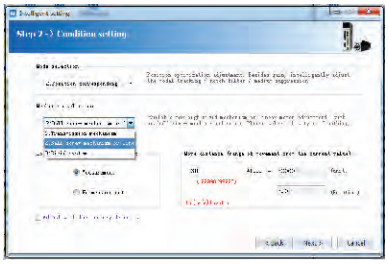
Powerful PC software

Debugging software free of installation.
The USB communication between the drive and computer is simple and easy to use.

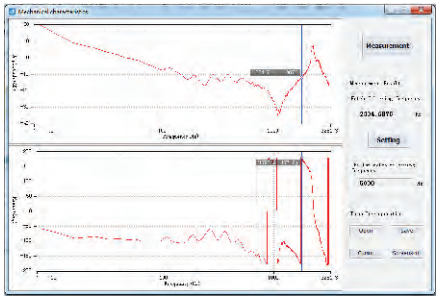


Batch parameter reading and writing

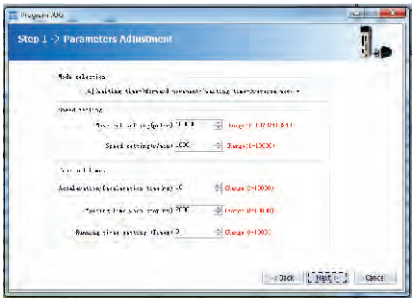
Inertia identification



Guide PID parameters according to different mechanical structures



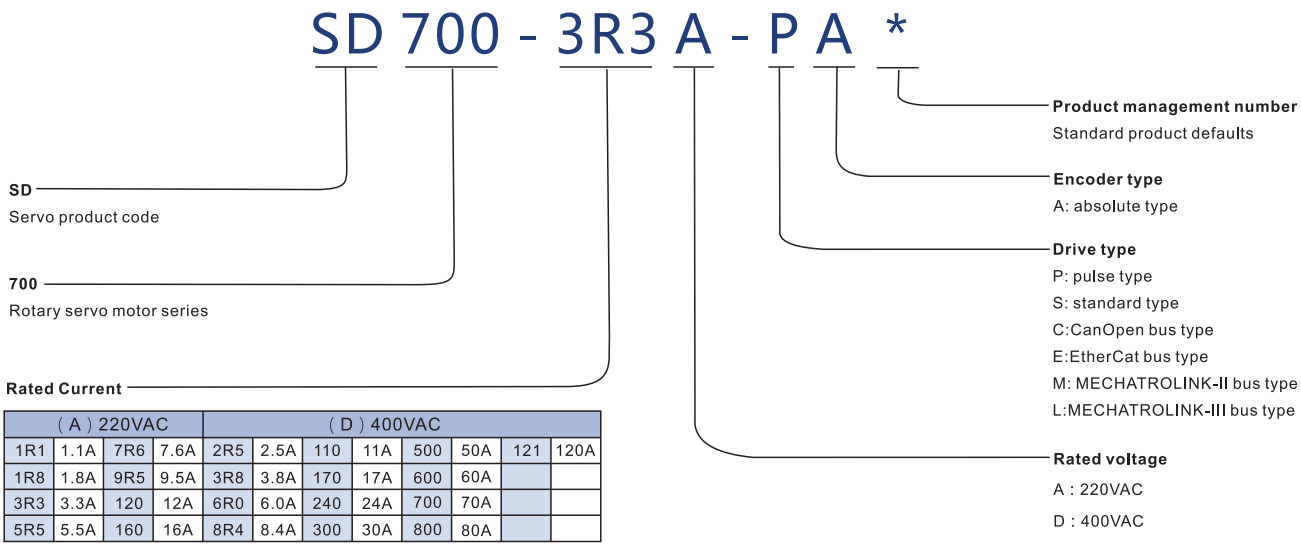
Mechanical characteristics analysis, automatic resonance suppression



Internal position loop program JOB facilitates easy debugging

The online oscilloscope can monitor in real-time (125us) with multi-channels

Model explanation



(A) 220VAC				(D) 400VAC							
1R1	1.1A	7R6	7.6A	2R5	2.5A	110	11A	500	50A	121	120A
1R8	1.8A	9R5	9.5A	3R8	3.8A	170	17A	600	60A		
3R3	3.3A	120	12A	6R0	6.0A	240	24A	700	70A		
5R5	5.5A	160	16A	8R4	8.4A	300	30A	800	80A		

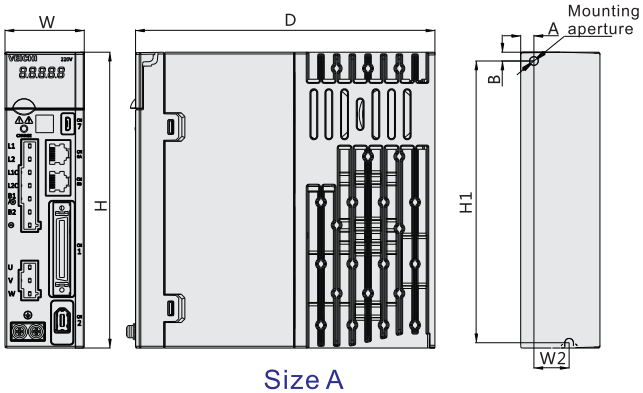
Code	Model	Pulse Input	16-bit analog	full closed loop	RS485	CANopen	PROFIBUS-DP	EtherCAT	MECHATRO LINK Ⅱ	MECHATRO LINK Ⅲ
P	Pulse type	●	○	●	●					
S	Standard type	●	●	●	●	●				
C	CANopen type	●	○	●	●	●				
E	EtherCAT type			●	●			●		
M	MECHATROLINKⅡ type			●	●				●	
L	MECHATROLINKⅢ type			●	●					●

○ Indicate it support 12 bit analog

Drive power and chassis Division

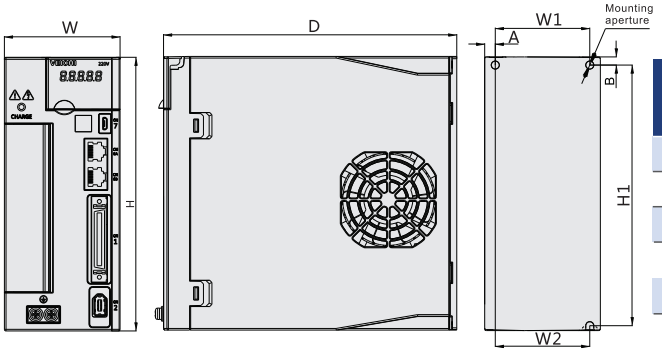
Model	Input	Output		Chassis size
		Rated current (A)	Instant current (A)	
SD700-1R1A	Single phase 220	1.1	3.9	A
SD700-1R8A	Single phase 220	1.8	6.3	
SD700-3R3A	Single phase 220	3.3	11.6	
SD700-5R5A	Single/Three phase 220	5.5	16.5	B
SD700-7R6A	Single/Threephase 220	7.6	22.8	
SD700-9R5A	Three phase 220	9.5	23.8	
SD700-120A	Three phase 220	12.0	36.0	C
SD700-160A	Three phase 220	16.0	40.0	
SD700-2R5D	Three phase 400	2.5	7.5	B
SD700-3R8D	Three phase 400	3.8	11.4	
SD700-6R0D	Three phase 400	6.0	18.0	C
SD700-8R4D	Three phase 400	8.4	25.2	
SD700-110D	Three phase 400	11.0	27.5	
SD700-170D	Three phase 400	17.0	42.5	D
SD700-240D	Three phase 400	24.0	60.0	
SD700-300D	Three phase 400	30.0	70.0	
SD700-500D	Three phase 400	50.0	115.0	E
SD700-600D	Three phase 400	60.0	120.0	
SD700-700D	Three phase 400	70.0	140.0	F
SD700-800D	Three phase 400	80.0	160.0	
SD700-121D	Three phase 400	120.0	240.0	

Drive appearance and installation size



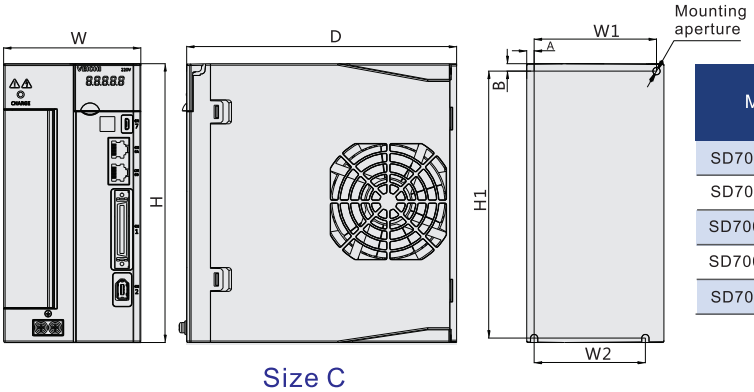
Size A

Model	Overall size (mm)			Installation size(mm)						Mounting aperture
	W	H	D	W1	W2	H1	H2	A	B	
SD700-1R1A-**	45	168	170	\	20	160	\	7.5	5	2-M4
SD700-1R8A-**										
SD700-3R3A-**										



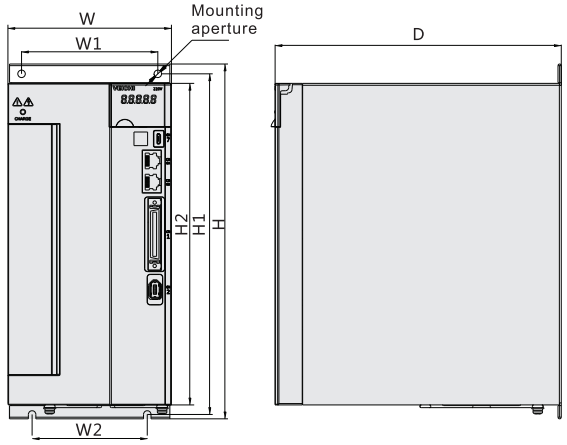
Size B

Model	Overall size (mm)			Installation size(mm)						Mounting aperture
	W	H	D	W1	W2	H1	H2	A	B	
SD700-5R5A-**	71	168	180	58	58	160	\	6.5	5	3-M4
SD700-7R6A-**										
SD700-9R5A-**										
SD700-2R5D-**										
SD700-3R8D-**										



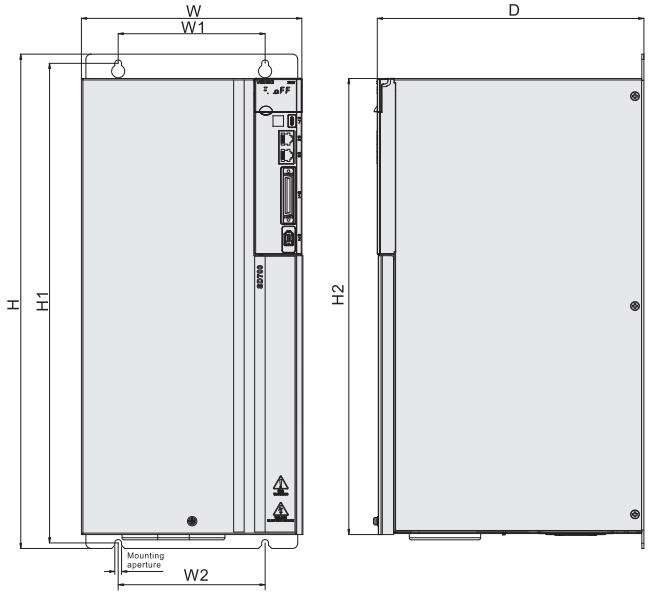
Size C

Model	Overall size (mm)			Installation size(mm)						Mounting aperture
	W	H	D	W1	W2	H1	H2	A	B	
SD700-120A-**	92.5	188	182	82.5	75	180	\	5	5	3-M4
SD700-160A-**										
SD700-6R0D-**										
SD700-8R4D-**										
SD700-110D-**										



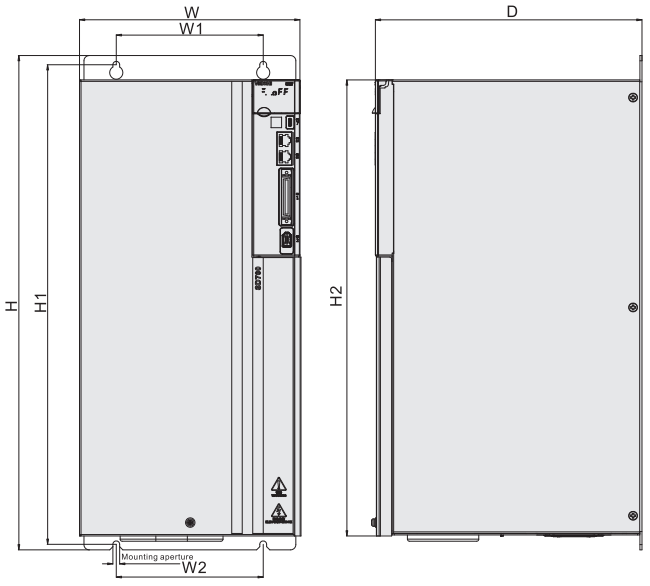
Size D

Model	Overall size (mm)			Installation size(mm)						Mounting aperture
	W	H	D	W1	W2	H1	H2	A	B	
SD700-170D-**	120	260	210	100	84.5	250	236	\	\	4-M5
SD700-240D-**										
SD700-300D-**										



Model	Overall size (mm)			Installation size(mm)						Mounting aperture
	W	H	D	W1	W2	H1	H2	A	B	
SD700-500D-**	210	471	254	140	140	457	434.5	\	\	4-M6
SD700-600D-**										

Size E



Model	Overall size (mm)			Installation size(mm)						Mounting aperture
	W	H	D	W1	W2	H1	H2	A	B	
SD700-700D-**	240	558	310	176	176	544	520	\	\	4-M6
SD700-800D-**										
SD700-121D-**										

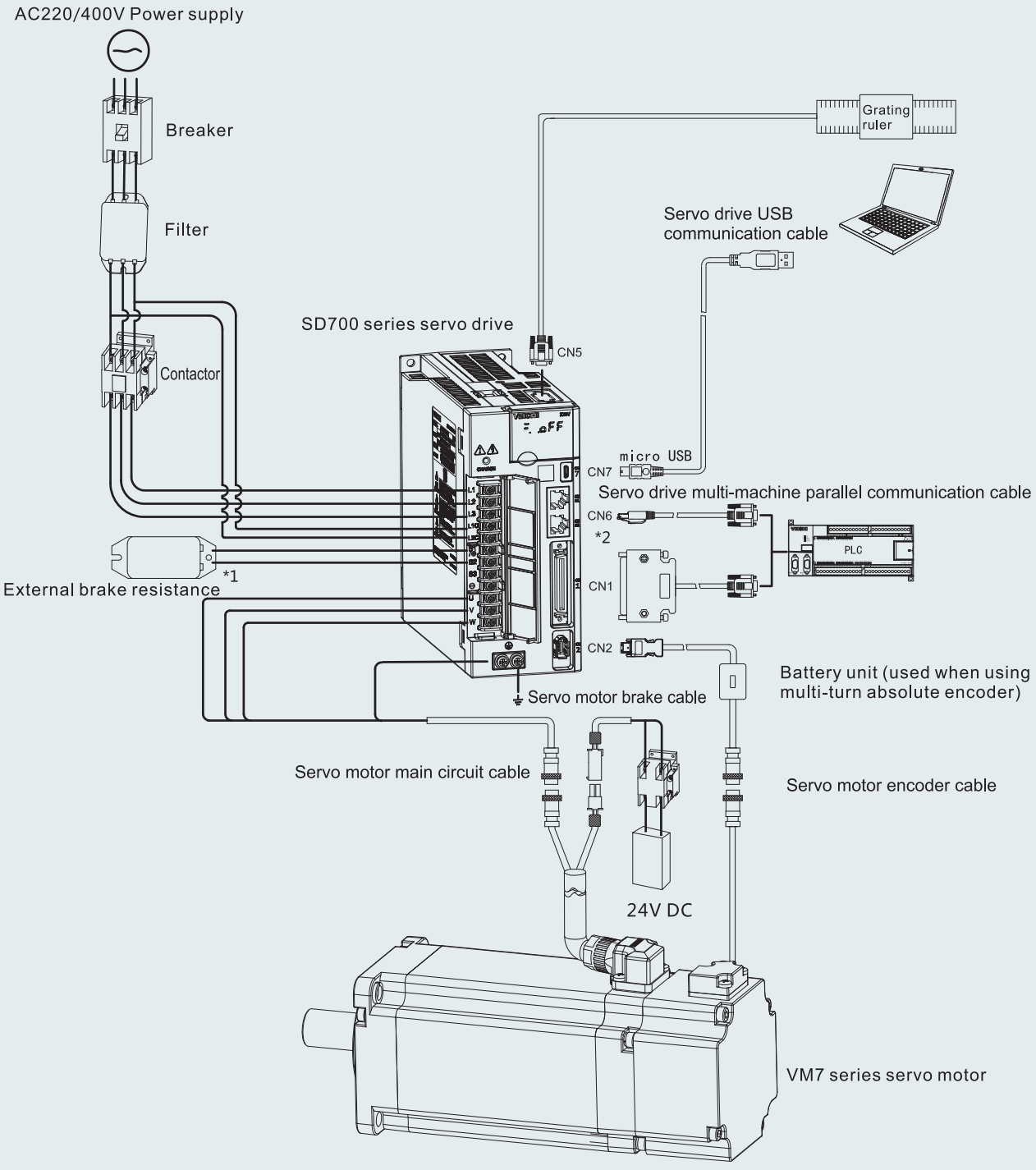
Size F

Drive Technical Specifications

Items			Specifications
Control mode			IGBT PWM control; sine wave current drive mode
Feedback	Rotating motor combination		Serial Communication Type Encoder: 17-bit, 23-bit encoder
Environment condition	Ambient temperature		-5℃ ~ 55℃(derating use at 55℃ ~ 60℃)
	Storage temperature		-20℃ ~ 85℃
	Ambient humidity		Below 95%RH (no freezing, no condensation)
	Storage humidity		Below 95%RH (no freezing, no condensation)
	Vibration resistance		4.9m/s²
	Impact resistance		19.6m/s²
	Protection class		IP20
	Cleanliness		No corrosive gases or flammable gases
			No water, oil or chemicals
			Environment with less dust, ash, salt, and metal powders
	Altitude		Below 1000m (derating use at 1000m to 2000m)
	Others		No static interference, strong electric field, strong magnetic sound, radiation and so on
Applicable standard			EN 61800-5-1:2007 EN 61800-3:2004/A1:2012
Installation type			Base mounting type: all models
			Shelf mounting type: all models
Performance	Speed control range		1: 6000 (the lower limit of the speed control range is the value under the condition of not stopping under the rated torque load)
	Speed fluctuation rate	Load fluctuation	Below rated speed ±0.01% (load fluctuation:0%~100%)
		Voltage fluctuation	Rated speed 0% (rated voltage±10%)
		Temperature fluctuation	Below rated speed ±0.1% (temperature fluctuation:25±25℃)
	Torque control accuracy		±1%
	Soft start time setting		0~30s (acceleration and deceleration can be set separately)
Communication function	Upper communication	Communication mode	Communication function-upper communication-communication mode-RS485, CANopen, EtherCAT, MECHATROLINK-ⅠⅠ, MECHATROLINK-II
		Axis address setting	Parameters setting
	USB communication	Equipment connection	Computer
		Communication specifications	According to USB1.1 specifications(12M)
Display function			CHARGE indicator
Keypad operator function			Button switch ×4
Input/output signal	Encoder pulse division output		A phase, B phase, C phase: number of pulse division output for linear drive can be arbitrarily set
	Sequential control input signal	Assignable input signal	Working voltage range : DC24V±20%
			Input points:9
			Input mode: common collector input, common emitter input
			Input signal
			Servo ON (/S-ON)
			P action/P-CON
			Origin reset deceleration switch signal (/DEC)
			Forward drive banned (P-OT), reverse drive banned (N-OT)
			Alarm reset (/ALM-RST)
			Torque limit selection (/TLC)
			Internal speed setting selection (/SPD-A, /SPD-B)
			Control mode switch (/C-SEL)
			Zero position fixed (/ZCLAMP)
			Command pulse inhibited (/INHIBIT)
			Magnetic poles detection input (/P-DET) signal
			Gain switch (/G-SEL)
			Command pulse input rate switch (/PSEL)
			Assignable signals and variable positive / negative logic

Items					Specifications
Input/ output signal	Sequential control output signal	Fixed output			Working voltage range：DC5V~DC30V
					Output points:1
					Output signal:servo alarm （ALM）
		Assignable output signals			Working voltage range：DC5V~DC30V
					Output points:3
					Input method: optocoupler output (isolated)
					Output signal
					Position finished(/COIN)
					Rotational detection (/TGON)
					Servo ready(S-RDY)
					Torque limited detection (/CLT)
					Speed limit detection (/VLT)
					Brake (/BK)
					Warning (/WARN)
					Location nearby (/NEAR)
					Assignable output signals and change positive / negative logic
Dynamic brake					Operate when the main loop power OFF, servo alarm, servo OFF, Over travel(OT),only AC200V degree A,B type support this function
Regeneration treatment					Built-in function,see “Brake resistance selection”
Over travel (OT) prevention					the dynamic brake (DB) stops, DEC stops, or free stops when P-OT, N-OT inputs operate
Protection function					Over current, over voltage, under voltage, overload, regeneration fault, etc
Auxiliary function					Gain adjustment, alarm record, JOG operation, origin search, etc
Security function		Input			STO, base block signal for the power module
Control	Position control	Feedforward compensation			0%~100%
		Position arrived range			0~1073741824 Command unit
		Input signal	Command pulse	Command pulse morphology	Choose one of the following
					Symbol + pulse sequence, CW+CCW pulse sequence,two-phase pulse of 90°difference
				Input morphology	Linear drive, open collector
				Maximum input frequency	Line drive
					Symbol + pulse sequence, CW+CCW pulse sequence: 4Mpps
					Two-phase pulse of 90°difference: 1Mpps
					Open collector
					Symbol + pulse sequence, CW+CCW pulse sequence: 200Kpps
					Two-phase pulse of 90°difference: 200Kpps
				Input rate switching	1~100 times
			signal clearance		Clearance of position deviation
	speed control	Soft start time setting			0~10s(setting acceleration and deceleration respectively)
		Input signal	Command voltage		Maximum input voltage: ±10V (motor runs forwardly under positive voltage command)
					Rated speed at DC6V [factory setting]
					Variable input gain setting
			Input impedance		About 14KΩ
		Internal set speed control	Loop time parameter		30μs
			Rotation direction selection		Inner speed set selection (/SPD-A,/SDP-B)
			Speed selection		Rotary direction selection (/SPD-D)
					Stop or change to other control modes when both sides are OFF
	Torque control	Input signal	Command voltage		Maximum input voltage: ±10V (motor runs forwardly under positive voltage command)
					Rated speed at DC3V [factory setting]
					Variable input gain setting
			Input impedance		About 14KΩ
			Loop time setting		16μs

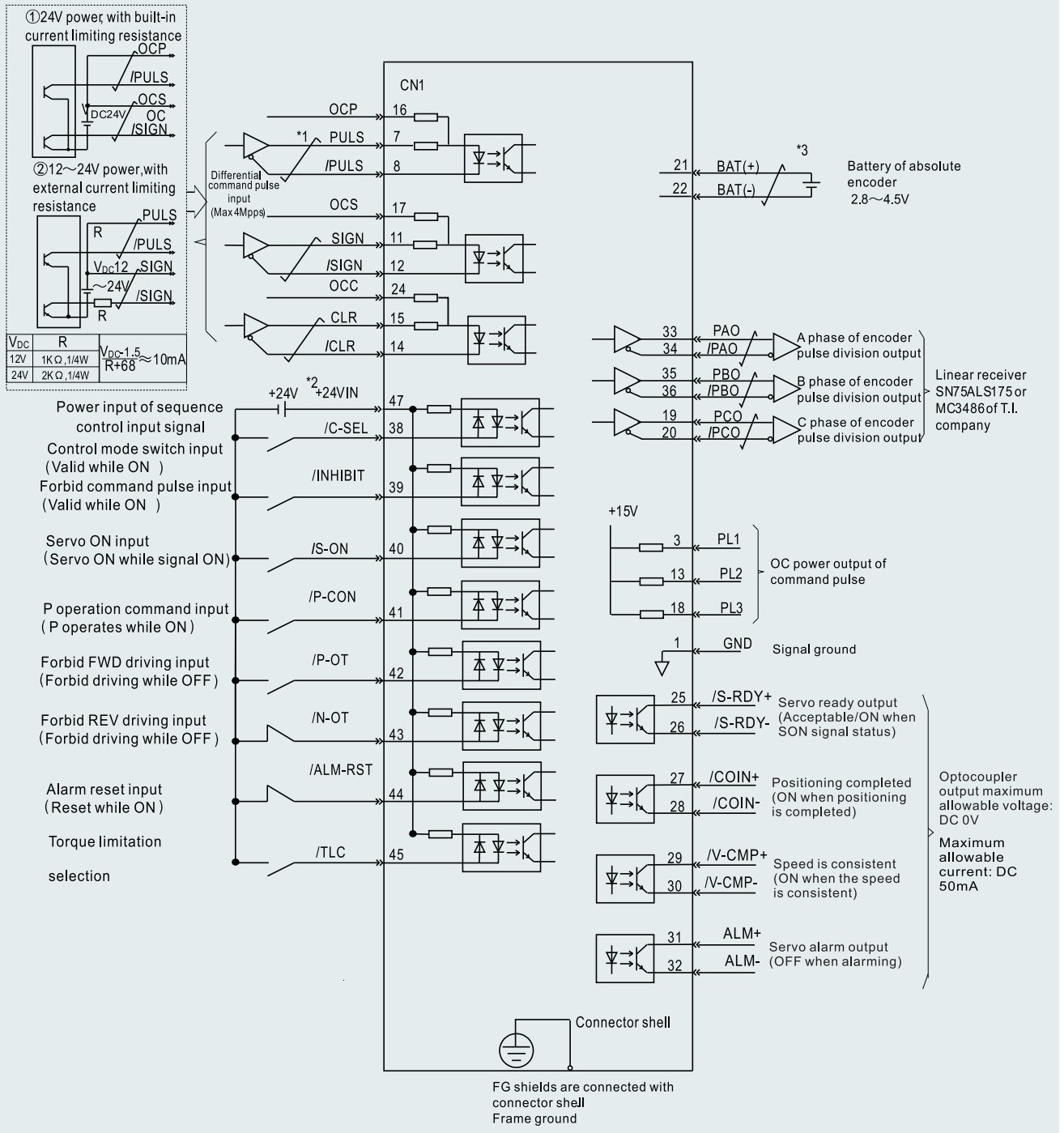
Series configuration drawing



* 1: When connecting an external braking resistor, please remove the short wiring between the B2-B3 terminals of the servo drive before connecting.

* 2: CN6A and CN6B are two pin definitions exactly the same communication interface, you can choose between them to use; Except for EtherCAT communication, EtherCAT bus wiring must Top in and bottom out.

Standard wiring diagram - position mode



*1. ≠ is the twisted shields

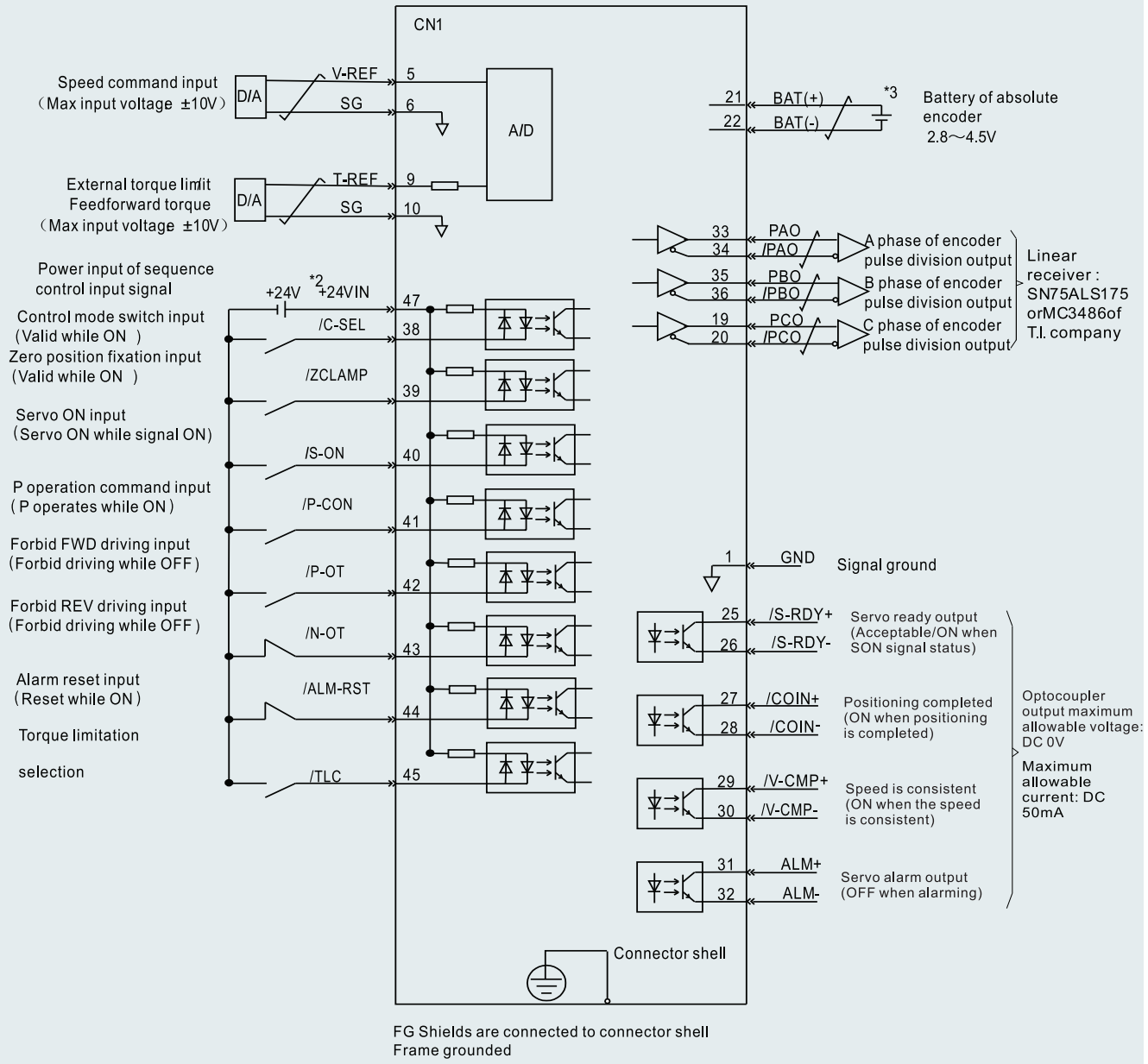
*2. DC24V power should be prepared by user. Double insulation or reinforced insulation equipments should be used for DC24V power.

*3.Connected while using absolute encoder. But never connect backup battery while using encoder cables with battery unit.

*4. Output signal should be received by linear receiver

（Note） While using 24V BRaker ,DC24V power should be separated Form the power for input and output signal (CN1).Please prepare other power individually,otherwise , there may be misoperation of input and output signal while power on.

Standard wiring diagram - speed mode



*1. ≠ is the twisted shields

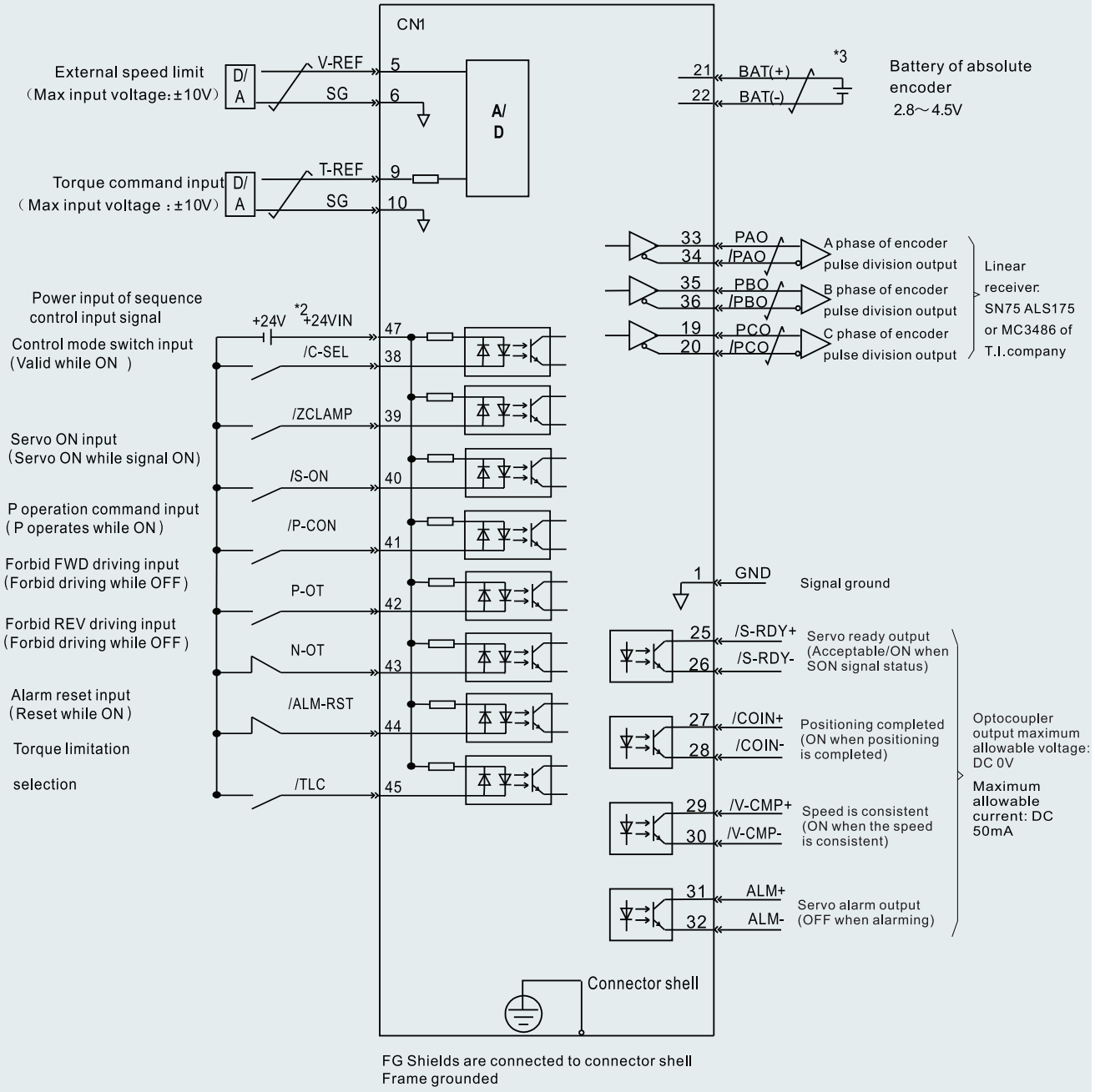
*2. DC24V power should be prepared by user. Double insulation or reinforced insulation equipments should be used for DC24V power.

*3.Connected while using absolute encoder. But never connect backup battery while using encoder cables with battery unit.

*4. Output signal should be received by linear receiver

（Note） While using 24V BRaker ,DC24V power should be separated Form the power for input and output signal(CN1).Please prepare other power individually,otherwise , there may be misoperation of input and output signal while power on.

Standard wiring diagram - torque mode



*1. ≠ Represents the twisted shields.

*2. The DC24V power supply should be prepared by the user. In addition, please use double insulation or reinforced insulation for DC24V power supply.

*3. Connect when using an absolute encoder. But when using an encoder cable with a battery unit, do not connect the CN1-21 and CN1-22 pins.

*4. The output signal must be received by a linear receiver.

(Note) When using a 24V brake, be sure to separate the DC24V power supply from the input/output signal (CN1) power supply, and prepare another power supply separately. When the power supply is shared, it may cause malfunction of input and output signals.

Servo motor model introduction

VM7 - L 06 A - 1R0 15 - D 1 □

Product series
VM5
VM7

Inertia level
L : Low inertia
M : Middle innertia
H : High inertia

Install flange

04	40mm	13	130mm
06	60mm	18	180mm
08	80mm	20	200mm
10	100mm	26	260mm
11	110mm		

Rated voltage
A:220VAC
D:400 VAC

Rated power

Mark	Power(W)	Mark	Power(W)	Mark	Power(W)	Mark	Power(W)
R05	50W	1R0	1.0KW	2R6	2.6KW	020	20KW
R10	100W	1R2	1.2KW	2R9	2.9KW	022	22KW
R20	200W	1R3	1.3KW	4R4	4.4KW	030	30KW
R40	400W	1R5	1.5KW	5R5	5.5KW	037	37KW
R60	600W	1R8	1.8KW	7R5	7.5KW	045	45KW
R75	750W	2R0	2.0KW	011	11KW	055	55KW
R85	850W	2R3	2.3KW	015	15KW		

Rated speed (RPM)
15: 1500
20: 2000
25: 2500
30: 3000

Encoder type
D:23 bit integrated multi-turn absolute encoder
Q:17 bit single-turn absolute encoder
R:17 bit multi-turn absolute encoder

Inner manager number

	Axis		Oilseal		Brake	
Mark	Optical axis	Key axis	Yes	No	Yes	No
1		●	●			●
2		●	●		●	

Motor brake power meter (estimated value)

Mounting flange	Brake power
40	7W
60	10W
80	15W
110	15W
130	20W
180	30W

Technical parameters of servo motor (A Output shaft)

Motor model VM □ -	Motor model													
	L04A-R1030-D1T	L06A-R2030-□□	L06A-R4030-□□	L06A-R6030-□□	L08A-R7520-D1L	L08A-R7530-□□L	M08A-R7530-□□L	L08A-R7530-□□	M08A-R7530-□□	L08A-1R030-□□	M11A-1R230-□□	M11A-1R315-□□	M11A-1R530-□□	M11A-1R830-□□
Rated voltage(V)	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Rated power(W)	100	200	400	600	750	750	750	750	750	1000	1200	1300	1500	1800
Rated speed(RPM)	3000	3000	3000	3000	2000	3000	3000	3000	3000	3000	3000	1500	3000	3000
Max speed(RPM)	6000	6000	6000	5000	2500	4000	4000	6000	6000	5000	5000	3000	5000	5000
Rated torque(N.m)	0.32	0.64	1.27	1.91	3.58	2.4	2.4	2.4	2.4	3.18	3.82	8.3	4.77	5.73
Peak torque(N.m)	0.96	1.92	3.81	5.73	10.7	7.2	7.2	7.2	7.2	9.54	11.46	24.9	14.31	17.19
Rated current(A)	1	1.6	2.5	3.3	3	3.3	3.3	4.8	4.8	5.3	5.5	7.6	7.6	9.2
Peak current(A)	3	4.8	7.5	9.9	9	9.9	9.9	14.4	14.4	15.9	16.5	22.8	22.8	27.6
Torque coefficient (N.m/A)	0.32	0.44	0.51	0.62	1.19	0.77	0.77	0.54	0.54	0.6	0.69	1.092	0.66	0.66
Moment of inertia (with band brake) (kg.cm^2)	0.06	0.21 (0.25)	0.44 (0.50)	0.67 (0.75)	1.8	1.30 (1.50)	2.30 (2.50)	1.30 (1.50)	2.30 (2.50)	1.66 (1.89)	6.03 (6.8)	19.2 (21.3)	7.24 (8.3)	7.84 (8.9)

Motor model VM□ -	Motor model													
	M13A-R8515-□□	M13A-1R020-□□	M13A-1R315-D1	M13A-1R520-□□	M13A-1R815-□□	M13A-2R020-□□	M13A-3R020-D1L	M13A-2R315-□□L	M13A-2R625-□□L	M13A-2R625-D1LF	M13A-3R020-D1L	M18A-2R915-D1	M18A-4R415-D1	M18A-5R515-D1
Rated voltage(V)	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Rated power(W)	850	1000	1300	1500	1800	2000	2000	2300	2600	2600	3000	2900	4400	5500
Rated speed(RPM)	1500	2000	1500	2000	1500	2000	2000	1500	2500	2500	2000	1500	1500	1500
Max speed(RPM)	3000	3000	3000	3000	3000	3000	2200	2000	3000	3000	2200	2000	1800	1800
Rated torque(N.m)	5.3	4.77	8.34	7.16	11.5	9.5	14.3	14.6	10	10	14.3	18.5	28.1	35.0
Peak torque(N.m)	15.9	14.3	23.3	21.48	34.5	28.5	42.9	43.8	30	30	42.9	46.2	70.3	87.5
Rated current(A)	5.5	5.5	9.2	7.6	12	9.4	9.4	9.4	9.4	9.4	9.4	12	14.1	17.7
Peak current(A)	16.5	16.5	27.6	22.8	36	28.2	28.2	28.2	28.2	28.2	28.2	30	35.25	44.25
Torque coefficient (N.m/A)	0.96	0.73	0.91	0.94	0.96	1.01	1.52	1.61	1.11	1.11	1.52	1.54	1.99	1.99
Moment of inertia (with band brake) (kg.cm^2)	13.1 (15.2)	13.1 (15.2)	19.2	18.7 (21.5)	24.3 (26.4)	24.3 (27.3)	37.4	37.4 (40.2)	24.3 (27.2)	24.3 (27.2)	37.4	47.9 (52.9)	72.3	110.1

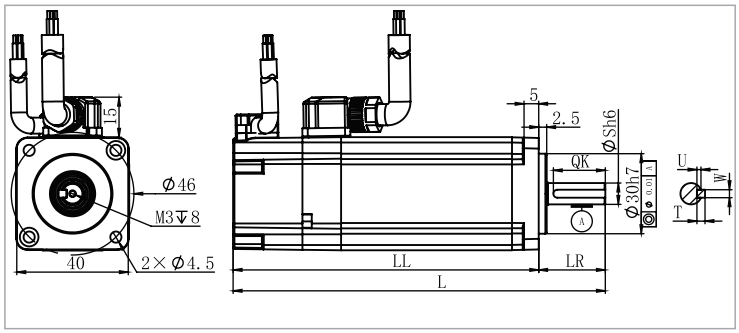
Motor model VM □ -	Motor model													
	M18A-7R515-D1	M13D-R8515-□□	M13D-1R020-□□	M13D-1R315-□□	M13D-1R520-□□	M13D-1R815-□□	M13D-2R020-□□	M13D-2R315-□□L	M13D-2R625-□□L	M13D-3R825-□□	M13D-3R815-D1F	M13D-2R915-D1F	VM5-M18D-2R915-□□	VM5-M18D-2R915-□□H
Rated voltage(V)	220	380	380	380	380	380	380	380	380	380	380	380	380	380
Rated power(W)	7500	850	1000	1300	1500	1800	2000	2300	2600	3800	3800	2900	2900	2900
Rated speed(RPM)	1500	1500	2000	1500	2000	1500	2000	1500	2500	2500	1500	1500	1500	1500
Max speed(RPM)	2000	3000	3000	3000	3000	3000	3000	2000	3000	3000	2500	2000	2000	3000
Rated torque(N.m)	47.7	5.3	4.77	8.3	7.16	11.5	9.5	14.6	10	14.5	21.4	18.5	18.5	18.5
Peak torque(N.m)	119.3	15.9	14.3	24.9	21.48	34.5	28.5	43.8	30	43.5	72.3	46.3	46.3	46.3
Rated current(A)	24.1	3.8	3.8	6.0	6.0	7.1	5.7	5.3	5.7	8.2	11	7.1	7.1	10.6
Peak current(A)	60.25	11.4	11.4	18.0	18.0	21.3	17.1	15.9	17.1	24.6	33	17.8	17.8	26.5
Torque coefficient (N.m/A)	1.97	1.50	1.26	1.38	1.19	1.62	1.67	2.76	1.75	1.77	1.94	2.75	2.75	1.745
Moment of inertia (with band brake) (kg.cm^2)	156.9	24.3 (26.4)	13.1 (15.2)	18.7 (20.8)	18.7 (21.5)	24.3 (26.4)	24.3 (27.3)	37.2 (40.2)	24.3 (27.2)	43.1 (46.2)	47.9	47.9 (53.7)	47.9 (53.7)	47.9 (53.7)

Motor model VM□-	Motor model										
	M18D-2R915-D1HF	VM5-M18D-4R415-□□	M18D-4R415-D1F	VM5-M18D-4R415-□□H	M18D-4R415-D1HF	VM5-M18D-5R515-□□	M18D-5R515-D1F	M18D-5R515-D1HF	VM5-M18D-7R515-□□	M18D-7R515-D1F	M18D-7R515-D1HF
Rated voltage(V)	380	380	380	380	380	380	380	380	380	380	380
Rated power(W)	2900	4400	4400	4400	4400	5500	5500	5500	7500	7500	7500
Rated speed(RPM)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max speed(RPM)	3000	2000	2000	3000	3000	2000	2000	3000	2000	2000	3000
Rated torque(N.m)	18.5	28.1	28.1	28.1	28.1	35	35	35	47.7	47.7	47.7
Peak torque(N.m)	46.3	70.3	70.3	70.3	70.3	87.5	105	87.5	119.3	119.3	119.3
Rated current(A)	10.6	11	9.9	16	16	14.1	12.7	20	19.1	19.1	27.6
Peak current(A)	26.5	27.5	27.5	40	40	35.3	38.1	50	47.8	47.8	69
Torque coefficient (N.m/A)	1.745	2.55	2.55	1.756	1.756	2.48	2.75	1.75	2.67	2.67	2.67
Moment of inertia (with band brake) ($kg.cm^2$)	47.9 (53.7)	72.3 (78.1)	72.3 (78.1)	72.3 (78.1)	72.3 (78.1)	110.06 (115.8)	110.1	110.6	156.9 (162.7)	156.9 (162.7)	156.9 (162.7)

Motor model VM□-	Motor model								
	VM7-M20D-01115-□1FN	M20D-01115-D1FNH	VM7-M20D-01515-□1FN	VM7-M20D-02015-□1FN	VM7-M20D-02215-□1FN	VM7-M26D-03015-□1FN	VM7-M26D-03715-□1FN	VM7-M26D-04515-□1FN	VM7-M26D-05515-□1FN
Rated voltage(V)	380	380	380	380	380	380	380	380	380
Rated power(W)	11000	11000	15000	20000	22000	30000	37000	45000	55000
Rated speed(RPM)	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max speed(RPM)	2000	3000	2000	2000	2000	2000	2000	2000	2000
Rated torque(N.m)	70	70	96	127	140	191	236	286	350
Peak torque(N.m)	140	140	192	254	280	382	472	572	700
Rated current(A)	21	21	29	38.5	42	58	72	87	106
Peak current(A)	42	42	58	77	84	116	144	174	212
Torque coefficient (N.m/A)	3.33	3.33	3.31	3.3	3.33	3.29	3.28	3.29	3.3
Moment of inertia (with band brake) ($kg.cm^2$)	70	70	100	147	171	372	461	550	639

Installation dimension of servo motor（A output shaft）

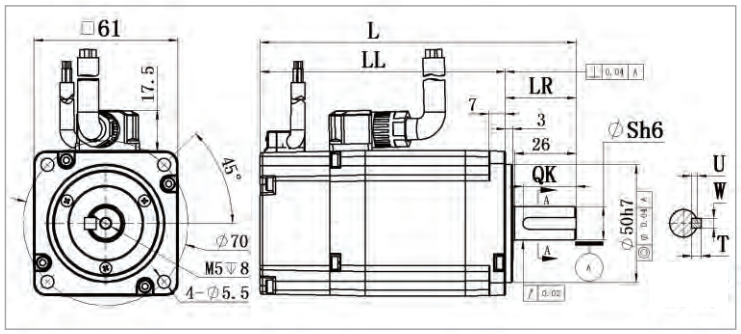
40 flange（A output shaft）



Unit:mm

Motor Type	L	LL	LR	S	U	W	T	QK
VM7-L04A-1R030-□1Z	104	79	25	8	2	3	3	15.5
VM7-L04A-1R030-□2Z	138	113	25	8	2	3	3	15.5

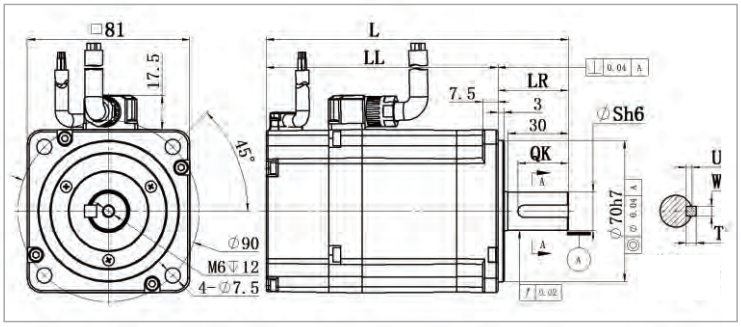
60 flange（A output shaft）



Unit:mm

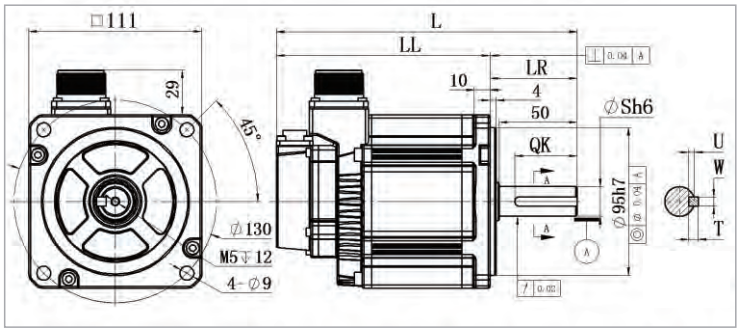
Motor type	L	LL	LR	S	U	W	T	QK
VM7-L06A-R2030-□1	116	86	30	14	3	5	5	22.5
VM7-L06A-R2030-□2	153	123	30	14	3	5	5	22.5
VM7-L06A-R4030-□1	138	108	30	14	3	5	5	22.5
VM7-L06A-R4030-□2	175	145	30	14	3	5	5	22.5
VM7-L06A-R6030-□1	162	132	30	14	3	5	5	22.5
VM7-L06A-R6030-□2	194	164	30	14	3	5	5	22.5

80 flange（A output shaft）



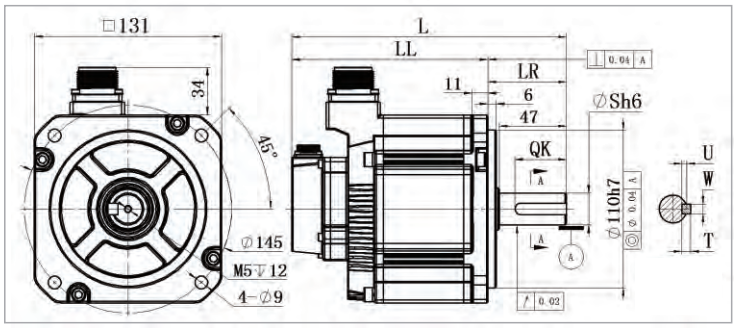
Motor type	L	LL	LR	S	U	W	T	QK
VM5-L08A-R7520-□1L	186	151	35	19	3.5	6	6	25
VM5-L08A-R7520-□2L	217.5	182.5	35	19	3.5	6	6	25
VM7-L08A-R7530-□1L	151	116	35	19	3.5	6	6	25
VM7-L08A-R7530-□2L	194	159	35	19	3.5	6	6	25
VM7-L08A-R7530-□1	151	116	35	19	3.5	6	6	25
VM7-L08A-R7530-□2	194	159	35	19	3.5	6	6	25
VM7-M08A-R7530-□1L	161	126	35	19	3.5	6	6	25
VM7-M08A-R7530-□2L	205	170	35	19	3.5	6	6	25
VM7-M08A-R7530-□1	161	126	35	19	3.5	6	6	25
VM7-M08A-R7530-□2	205	170	35	19	3.5	6	6	25
VM7-L08A-1R030-□1	174	139	35	19	3.5	6	6	25
VM7-L08A-1R030-□2	207	172	35	19	3.5	6	6	25

110 flange（A output shaft）



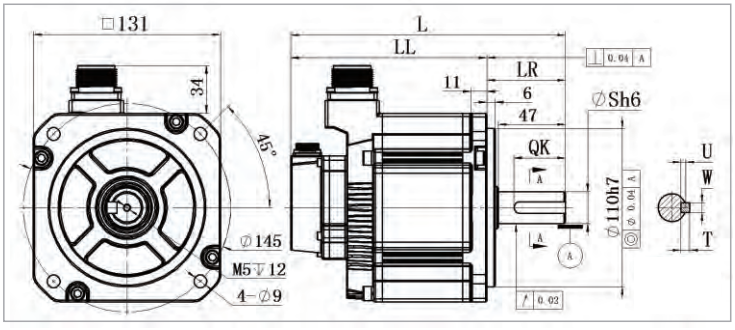
Motor type	L	LL	LR	S	U	W	T	QK
VM7-M11A-1R230-□1	193	137	56	19	3.5	6	6	40
VM7-M11A-1R230-□2	227	171	56	19	3.5	6	6	40
VM7-M11A-1R530-□1	213	157	56	19	3.5	6	6	40
VM7-M11A-1R530-□2	247	191	56	19	3.5	6	6	40
VM7-M11A-1R830-□1	218	162	56	19	3.5	6	6	40
VM7-M11A-1R830-□2	252	196	56	19	3.5	6	6	40

130 flange（A output shaft）



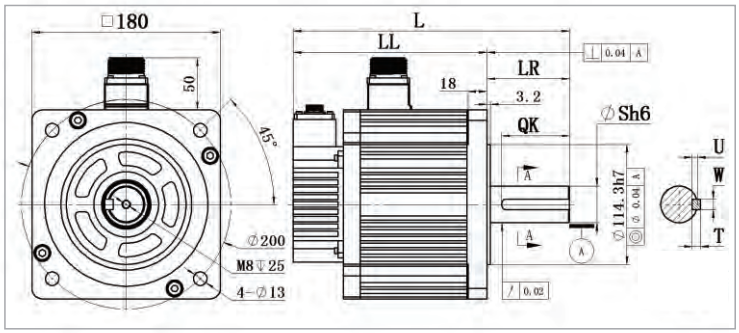
Motor type	L	LL	LR	S	U	W	T	QK
VM7-M13□-R8515-□1	192	137	55	22	4	8	7	36
VM7-M13□-R8515-□2	229	174	55	22	4	8	7	36
VM7-M13□-1R020-□1	192	137	55	22	4	8	7	36
VM7-M13□-1R020-□2	229	174	55	22	4	8	7	36
VM7-M13A-1R315-□1	210	155	55	22	4	8	7	36
VM7-M13A-1R315-□2	247	192	55	22	4	8	7	36
VM7-M13□-1R520-□1	207	152	55	22	4	8	7	36
VM7-M13□-1R520-□2	244	189	55	22	4	8	7	36
VM7-M13□-1R815-□1	222	167	55	22	4	8	7	36
VM7-M13□-1R815-□2	259	204	55	22	4	8	7	36
VM7-M13□-2R020-□1	222	167	55	22	4	8	7	36
VM7-M13□-2R020-□2	259	204	55	22	4	8	7	36
VM7-M13□-2R315-□1L	257	202	55	22	4	8	7	36
VM7-M13□-2R315-□2L	299	244	55	22	4	8	7	36
VM7-M13□-2R625-□1L	222	167	55	22	4	8	7	36
VM7-M13A-2R625-□1LF	226	171	55	22	4	8	7	36

130 flange（A output shaft）



Motor type	L	LL	LR	S	U	W	T	QK
VM7-M13□-2R625-□2L	259	204	55	22	4	8	7	36
VM7-M13A-3R020-□1L	299	244	55	22	4	8	7	36
VM7-M13□-3R825-□1	272	217	55	22	4	8	7	36
VM7-M13□-3R825-□2	314	259	55	22	4	8	7	36
VM7-M13A-3R815-□1F	280	225	55	22	4	8	7	36

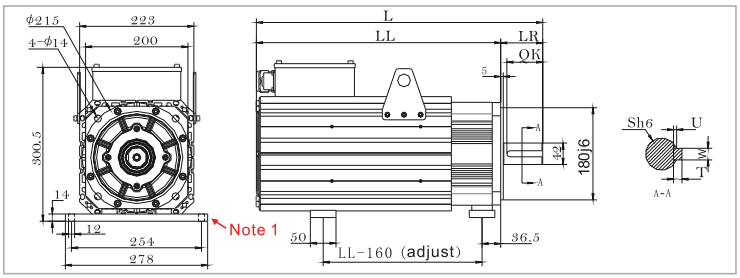
180 flange（A output shaft）



Unit:mm

Motor type	L	LL	LR	S	U	W	T	QK
VM5-M18D-2R915-□1	264	185	79	35	5	10	8	65
VM5-M18D-2R915-□1H	264	185	79	35	5	10	8	65
VM5-M18D-2R915-□2	325	246	79	35	5	10	8	65
VM5-M18D-2R915-□2H	325	246	79	35	5	10	8	65
VM5-M18D-4R415-□1	288	209	79	35	5	10	8	65
VM5-M18D-4R415-□1F	280	201	79	35	5	10	8	65
VM5-M18D-4R415-□1H	288	209	79	35	5	10	8	65
VM5-M18D-4R415-□1HF	280	201	79	35	5	10	8	
VM5-M18D-4R415-□2	371	292	79	35	5	10	8	65
VM5-M18D-4R415-□2H	371	292	79	35	5	10	8	65
VM5-M18D-5R515-□1	325	246	79	35	5	10	8	65
VM5-M18D-5R515-□2	371	292	79	35	5	10	8	65
VM5-M18D-5R515-□1H	325	246	79	35	5	10	8	65
VM5-M18D-5R515-□2H	371	292	79	35	5	10	8	65
VM5-M18D-5R515-□1F	318	239	79	35	5	10	8	65
VM5-M18D-5R515-□1HF	318	239	79	35	5	10	8	65
VM5-M18D-7R515-□1	371	292	79	35	5	10	8	65
VM5-M18D-7R515-□2	427	348	79	35	5	10	8	65
VM5-M18D-7R515-□1F	455	28	79	35	5	10	8	65
VM5-M18D-7R515-□1HF	455	280	79	35	5	10	8	65
VM5-M18D-7R515-□1F	369	190	79	35	5	10	8	65
VM5-M18D-7R515-□1HF	369	190	79	35	5	10	8	65

200 flange（A output shaft）

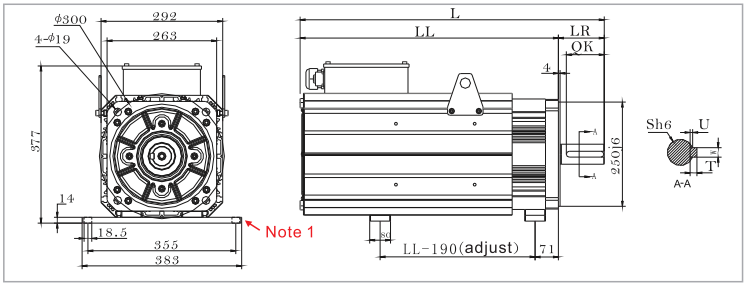


Unit:mm

Motor type	L	LL	LR	S	U	W	T	QK
VM7-M20D-01115-□1FN	451	369	82	42	4	12	8	70
VM7-M20D-01115-□1FNH	451	369	82	42	4	12	8	70
VM7-M20D-01515-□1FN	488	406	82	42	4	12	8	70
VM7-M20D-02015-□1FN	560	478	82	42	4	12	8	70
VM7-M20D-02215-□1FN	607	525	82	42	4	12	8	70

Note 1： 200 flange motor grounding plate set (optional)
Model：S18　No：6010000008

263 flange（A output shaft）



Unit:mm

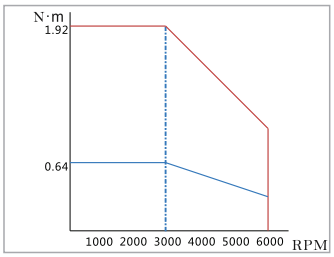
Motor type	L	LL	LR	S	U	W	T	QK
VM7-M26D-03015-□1FN	640	530	110	48	4.5	14	9	90
VM7-M26D-03715-□1FN	684	574	110	48	4.5	14	9	90
VM7-M26D-04515-□1FN	727	617	110	48	4.5	14	9	90
VM7-M26D-05515-□1FN	795	685	110	48	4.5	14	9	90

Note 1： 263 flange motor grounding plate set (optional)
Model：S18　No：6010000008

Torque characteristics of servo motor (A output shaft)

Note: “——” is rated torque “——” is the instantaneous maximum torque

VM7-L06A-R2030-□□



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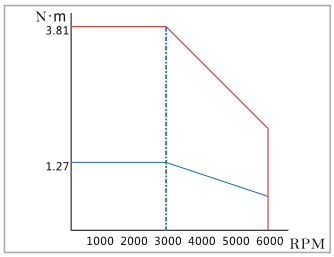

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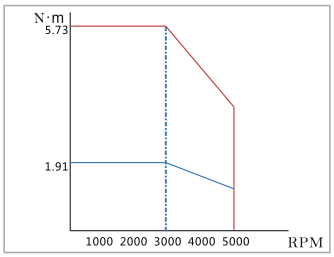
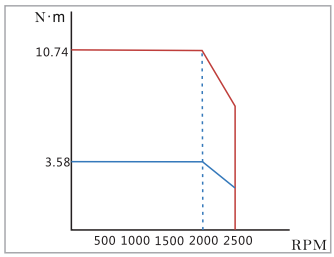


VM5-L08-R7520-□□L



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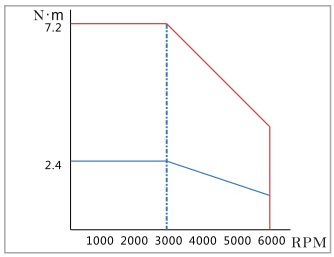

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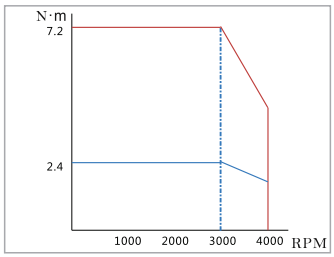
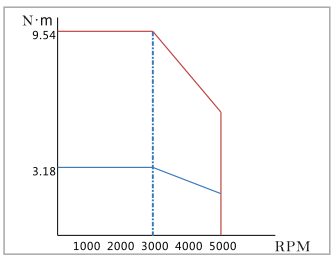
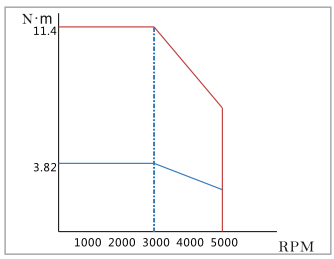


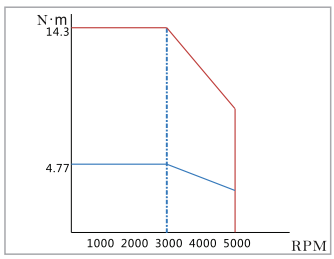
VM7-L08A-1R030-□□



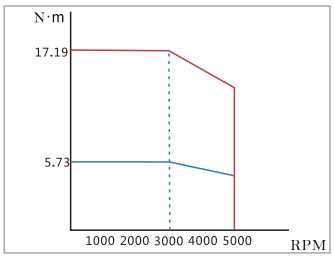
VM7-M11A-1R230-□□



VM7-M11A-1R530-□□



VM7-M11A-1R830-□□



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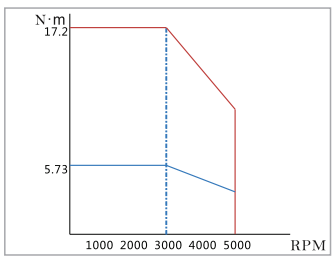
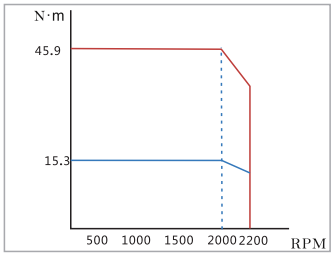
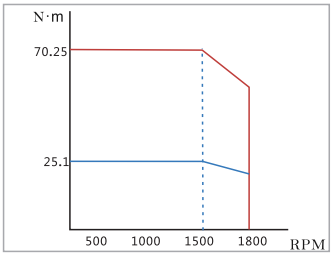


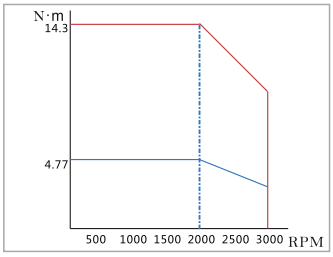
VM7-M13A-3R020-□□L



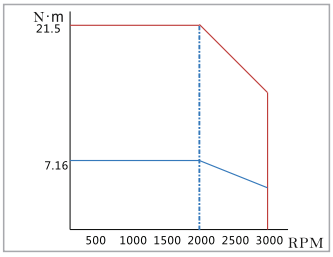
VM5-M18A-4R415-□□



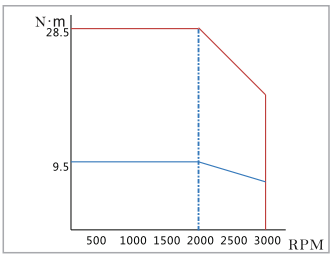
VM7-M13□-1R020-□□



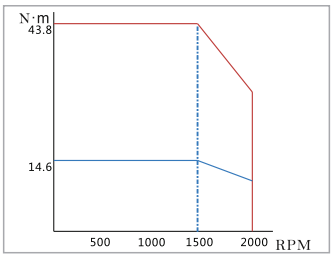
VM7-M13□-1R520-□□



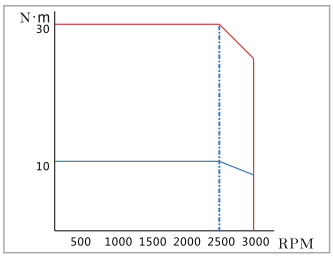
VM7-M13□-2R020-□□



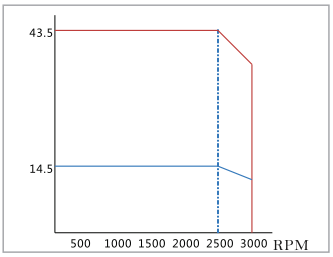
VM7-M13□-2R315-□□L



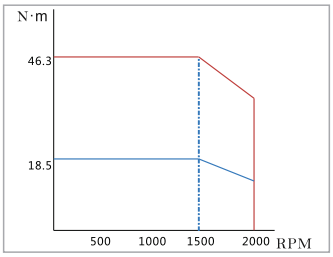
VM7-M13□-2R625-□□L



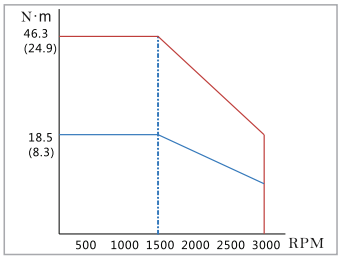
VM7-M13□-3R825-□□



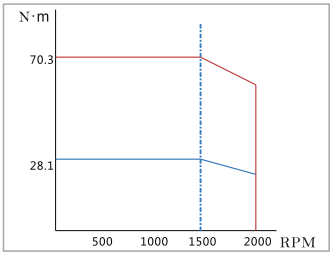
VM5-M18D-2R915-□□



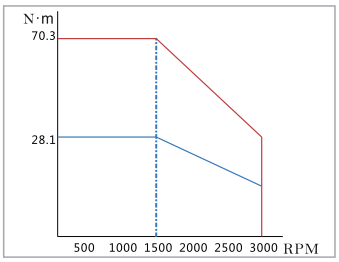
VM5-M18D -2R915-□□H (VM7-M13□-1R315-□□)



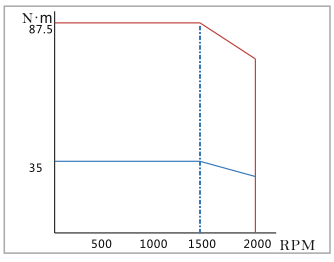
VM5-M18D-4R415-□□



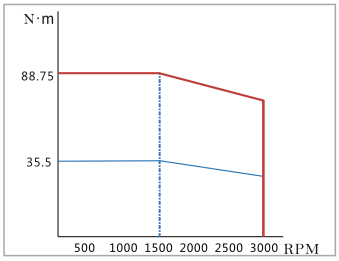
VM5-M18D -4R415-□□H



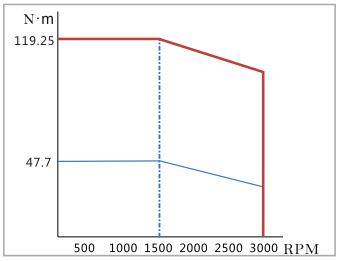
VM5-M18D-5R515-□□



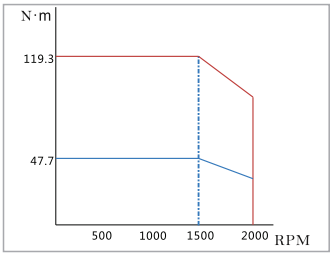
VM5-M18D-5R515-□□H



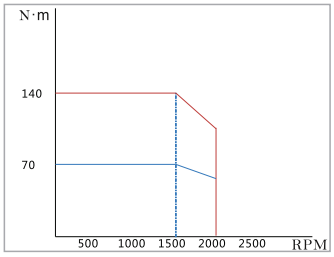
VM5-M18A-7R515-□□H



VM5-M18D-7R515-□□



VM7-M20D-01115-□1FN



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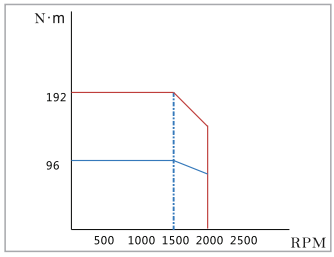
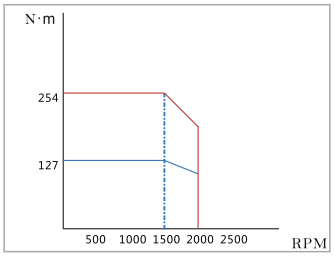
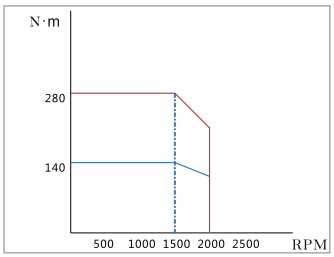


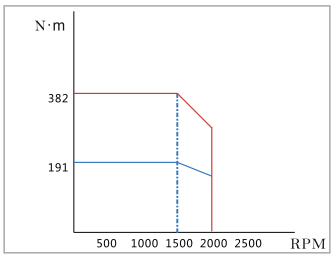
VM7-M20D-02015-□1FN



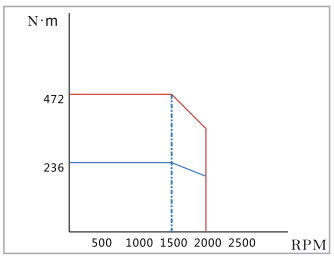
VM7-M20D-02215-□1FN



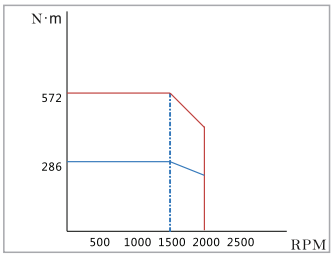
VM7-M20D-03015-□1FN



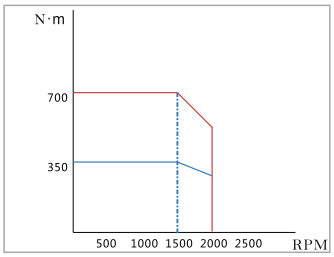
VM7-M20D-03715-□1FN



VM7-M20D-04515-□1FN



VM7-M20D-05515-□1FN

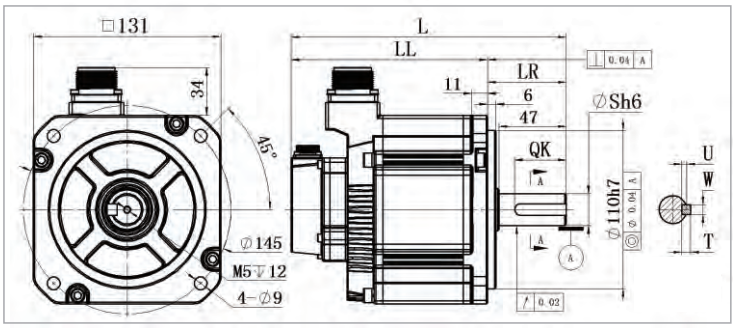


Technical parameters of servo motor（B output shaft）

	Motor model					
Motor model VM□ -	M13A-R8515-□□B	M13A-1R815-□□B	M13D-R8515-□□B	M13D-1R815-□□B	VM5-M18D-5R515-□□BH	VM5-M18D-7R515-□□BH
Rated voltage(V)	220	220	380	380	380	380
Rated power(W)	850	1800	850	1800	5500	7500
Rated speed(RPM)	1500	1500	1500	1500	1500	1500
Max speed(RPM)	3000	3000	3000	3000	3000	3000
Rated torque(N.m)	5.3	11.5	5.3	11.5	35	47.7
Peak torque(N.m)	15.9	34.5	15.9	34.5	87.5	119.3
Rated current(A)	5.5	12	3.8	7.1	20	27.6
Peak current(A)	16.5	36	11.4	21.3	50	69.0
Torque coefficient (N.m/A)	0.96	0.96	1.395	1.62	1.75	1.73
Moment of inertia (with band brake) ($kg.cm^2$)	13.1 (15.2)	24.3 (26.4)	13.1 (15.2)	24.3 (26.4)	110.06 (115.8)	156.9 (162.7)

Installation dimension of servo motor(B output shaft)

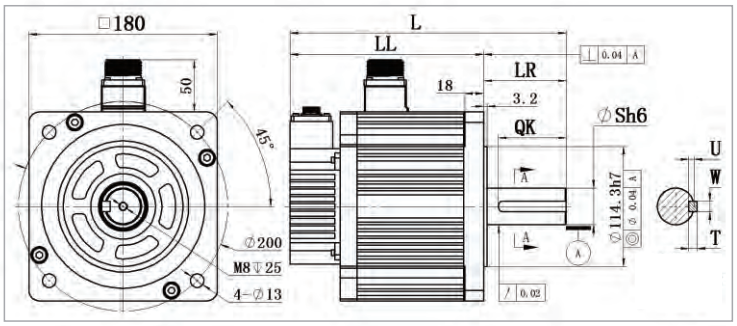
130 flange（B output shaft）



Unit:mm

Motor type	L	LL	LR	S	U	W	T	QK
VM7-M13□-R8515-□B	192	137	55	19	3.5	6	6	25
VM7-M13□-R8515-□B	229	174	55	19	3.5	6	6	25
VM7-M13□-1R815-□B	222	167	55	24	4	8	7	36
VM7-M13□-1R815-□B	259	204	55	24	4	8	7	36

180 flange（B output shaft）

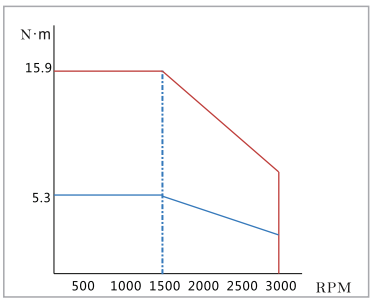


Unit:mm

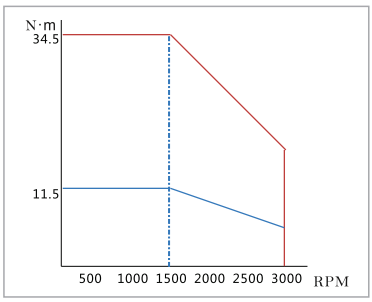
Motor type	L	LL	LR	S	U	W	T	QK
VM5-M18D-5R515-□1BH	359	246	113	42	5	12	8	96
VM5-M18D-5R515-□2BH	405	292	113	42	5	12	8	96
VM5-M18D-7R515-□1BH	405	292	113	42	5	12	8	96
VM5-M18D-7R515-□2BH	461	348	113	42	5	12	8	96

Torque characteristics of servo motor (B output shaft)

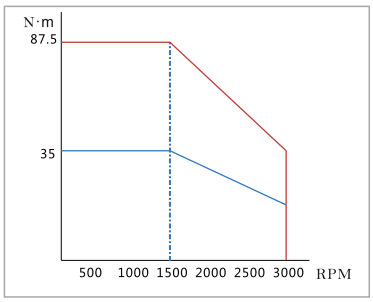
VM7-M13□-R8515-□□B



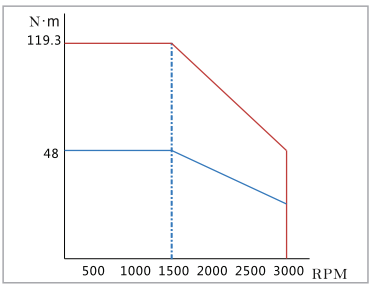
VM7-M13□ -1R815-□□B



VM5-M18D -5R515-□□BH



VM5-M18D -7R515-□□BH



SD700 Servo drive wire introduction

Power cable naming rules

V M 075 - L030 - A N L

Product series

Power cable

Wire s diameter

075: 0.75mm²cable ≦6A

150: 1.5mm²cable≦11A

250: 2.5mm²cable≦18A

400: 4mm²cable≦30A

Cable length

L030	3m	L050	5m
L100	10m	L150	15m
L200	20m	L250	25m
L300	30m		

Cable material

L: Standard cable

H: flexible cable

Drive -side plug

N: none (bare wire/ u-terminal)

Motor side plug

A: 16M-4A (4 injection integrated aviation plug)

K: 3108A18-10S(4-pin 90 degree military regulation aviation plug)

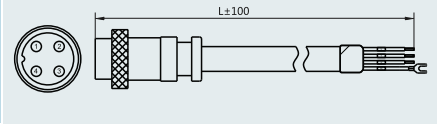
H: 3108A20-18S (9-pin 90 degree military regulation aviation plug)

M: 3108A22-22S(4pin 90 degree military regulation aviation plug)

Note: For 110/130 flange brake motor , brake line and power line are combined into one wire , and H is selected for motor end plug , such as VM150-L050-HNL

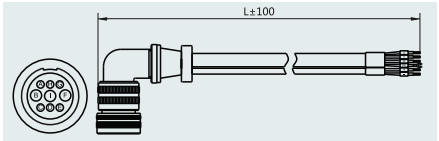
Motor power cable

VM075-□-□N□
Motor plug A



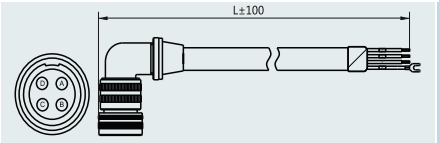
Motor power cable of 40/60/80 flange

VM150-④-⑤N⑦
Motor plug H



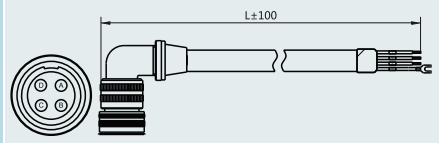
Motor power cable of 110 / 130 flange

VM150-□-□N□
Motor plug K



Motor power cable of 100/110/ 130 flange

VM250-□-□N□
VM400-□-□N□
Motor plug M



Motor power cable of 180 flange

Brake cable naming rules

V B - L030 - B L

Product series

Brake cable

Cable length

L030	3m	L050	5m
L100	10m	L150	15m
L200	20m	L250	25m
L300	30m		

Cable material

L: standrad cable

H: flexible cable

Motor-side plug

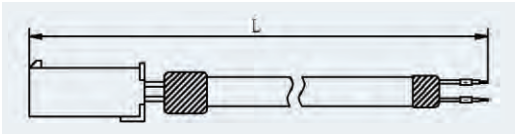
B: 2PIN(AMP 172157-1 plastic plug)

C: 2PIN(SC-CMV1-AP02C-2pin bent aviation plug)

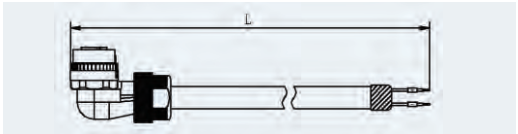
D: 3PIN(YDB16K3TQ-3-pin straight aviation)

Brake cable

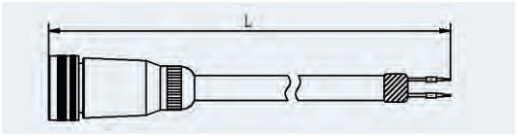
VB-□-B□



VB-□-C□



VB-□-D□



Encoder cable naming rules

V E 06 - L030 - 2 A N L

Product series

Encoder line

Wires quantily

04: 4-pin twisted shielded cable

06: 6-pin twisted shielded cable

Cable length

L030	3m	L050	5m
L100	10m	L150	15m
L200	20m	L250	25m
L300	30m		

Drive-side plug

2: 6PIN 1394plug

Motor-side plug

A: 16M-9A(9-pin injection molding integrated port plug)

Battery

N: without battey

D: with battey (voltage: 3.7V)

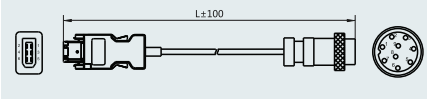
Cable material

L: Standrad cable (bending times over 2 million)

H: Flexible cable (bending times over 10 million)

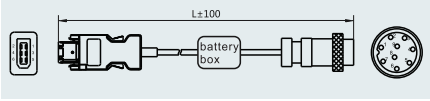
Encoder cable

VE04-□-2AN□



Encoder cable without battery box

VE06-□-2AD□



Encoder cable with battery box

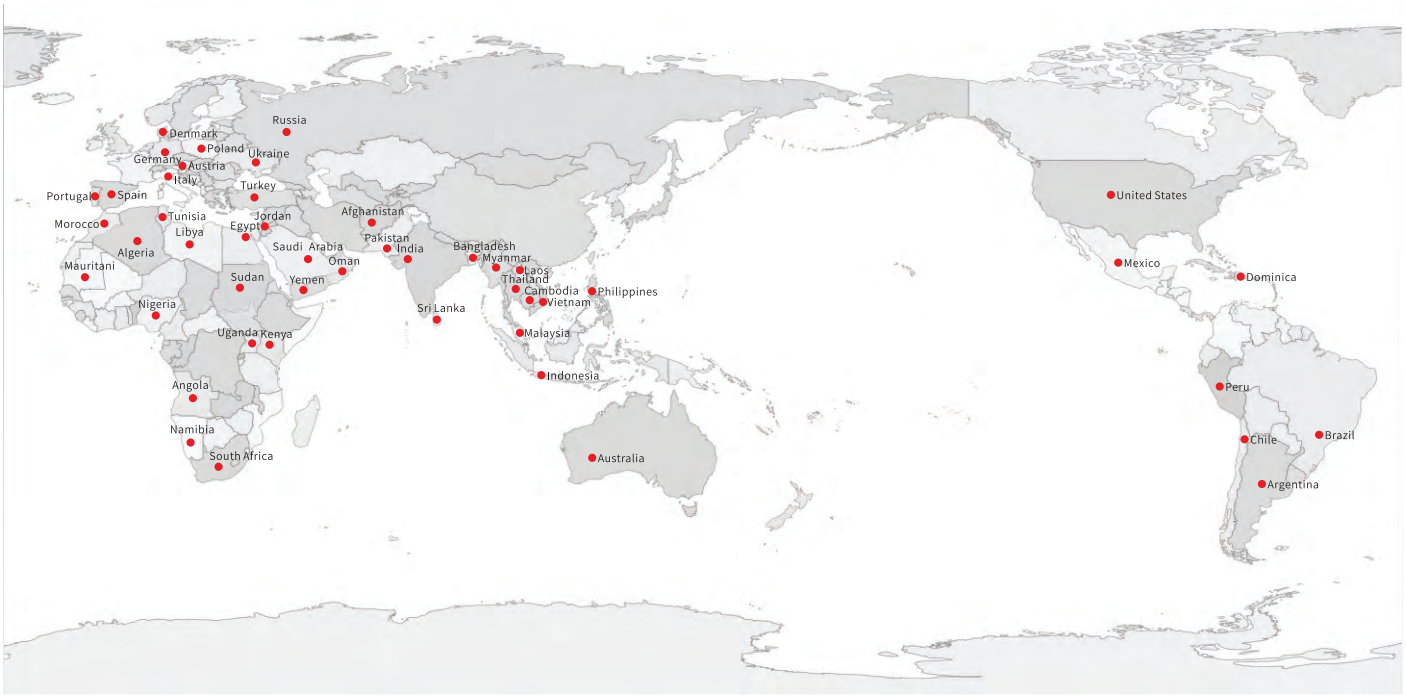
Selection of brake resistor

Model	Brake voltage	Internal resistor	Minimum external resistance	Maximum external resistance
SD700-1R1A	380V	None	40Ω	400Ω
SD700-1R8A	380V	None	40Ω	200Ω
SD700-3R3A	380V	None	40Ω	100Ω
SD700-5R5A	380V	40Ω 60W	25Ω	70Ω
SD700-7R6A	380V	40Ω 60W	15Ω	50Ω
SD700-9R5A	380V	40Ω 60W	15Ω	40Ω
SD700-120A	380V	30Ω 200W	10Ω	30Ω
SD700-160A	380V	30Ω 200W	10Ω	30Ω
SD700-2R5D	700V	80Ω 60W	80Ω	225Ω
SD700-3R8D	700V	80Ω 60W	55Ω	180Ω
SD700-6R0D	700V	40Ω 60W	35Ω	110Ω
SD700-8R4D	700V	40Ω 60W	25Ω	85Ω
SD700-110D	700V	40Ω 60W	25Ω	70Ω
SD700-170D	700V	30Ω 200W	30Ω	50Ω
SD700-240D	700V	30Ω 200W	15Ω	40Ω
SD700-300D	700V	30Ω 200W	15Ω	30Ω
SD700-500D	700V	None	10Ω	20Ω
SD700-600D	700V	None	10Ω	20Ω
SD700-700D	700V	None	10Ω	15Ω
SD700-800D	700V	None	10Ω	15Ω
SD700-121D	700V	None	8Ω	12Ω

Domestic Marketing Services Network

Veichi Electric was established in 2005 and headquartered in Shenzhen, China. In October 2013, Suzhou Veichi Electric Co., Ltd. was founded in Suzhou, Jiangsu province which formed two major production bases. Our sales and service network spread all over the country including more than 40 offices and service centers to ensure timely response of customer needs.

International Marketing Services Network



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